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REMARKS

Claims 1 – 41 are pending in the present Application. No claims have been amended, added or cancelled, leaving Claims 1 – 41 for consideration. Reconsideration and allowance of the claims is respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1 – 15, and 18 – 41 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,130,356 to Feuerherd et al. in view of U.S. Patent No. 5,972,461 to Sandstrom. Applicants respectfully traverse this rejection.

The present claims are directed to a storage media. The media comprises a substrate, with a data layer on the substrate. The data layer can be at least partly read from, written to, or a combination thereof by an energy field such that the energy field is incident upon the data layer before it could be incident upon the substrate. The substrate comprises a single phase plastic resin portion, wherein the plastic resin portion comprises poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s). (Claim 1)

Feuerherd et al. is directed to molding for optical purposes. They teach an optically transparent, isotropic molding, for optical purposes, that is free of orientation birefringence. The molding can be used for an audio compact disk (CD), audiovisual compact disk (CDV), laser-optical computer disk and magneto-optical computer disk. (Abstract) In other words, they focus on birefringence, transparency, and materials that will produce an optical, read-through disk that will have extended life and avoid the problems of conventional read-through disks. “[I]n this method of recording,... the recording layer is usually irradiated through the dimensionally stable substrate...” (Col. 20, lines 10 – 18)

Sandstrom discloses a “Rewritable Optical Data Storage Disk Having Enhanced Flatness”. In order to attain the “enhanced flatness” and avoid process induced surface variations such as warpage and tilt, Sandstrom disclosed a substrate with increased thickness that is greater than or equal to approximately 1.5 mm and less than or equal to approximately 2.5 mm. (Title and Abstract and throughout the Specification) As is noted by the Examiner,

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Sandstrom notes the existence of different types of storage media; e.g., substrate-incident recording (beam passes through the substrate before it reaches the recording layer) and near-field, air-incident recording (beam does not pass through the substrate). (Col. 1, lines 17 – 25) Sandstrom teaches that an “air gap forms a bearing over which the flying head rides during operation. For near-field recording, the thickness of the air gap is less than one wavelength of the recording beam.” (Col. 1, lines 32 – 37) In order to operate in these types of conditions (i.e., near field; not reading through the substrate), enhanced flatness if necessary.

The increased thickness of the substrate enhances the flatness of the recording disk relative to a recording plane. In particular, the increased thickness reduces process-induced surface variations such as warpage and tilt, and provides the disk with increased stiffness to resist deflection during use. The enhanced flatness enables data to be recorded on the disk in a consistent manner with greater spatial densities using techniques such as near-field, air-incident recording. The resulting disk thereby yields greater spatial density and data storage capacity.

(Col. 2, lines 24 – 32) In other words, Sandstrom teaches that not all disks are created equal. In order to operate in a near field, air-incident environment, additional issues must be addressed such as deviations from the recording plane. Deviations can be caused, for example, by “disk fabrication process[es]..., effects of gravity and thermal gradients..., deflection in response to forces encountered during drive operations...”. (Col. 2, line 63 – Col. 3, line 4) In contrast, however, “[c]onventional spatial densities of optical disks ordinarily tolerate some degree of focusing error, and therefore are not greatly impacted by flatness variation. Also, to the extent that focusing error is a problem, conventional substrate-incident recording drives typically include closed-loop focus adjustment across the surface of the disk. At higher spatial densities, however, surface deviation can impair the ability of the drive laser to consistently write and read to and from individual domains on the disk.... Higher spatial densities may allow very little if any tolerance for focusing error induced by flatness variation.” (Col. 3, lines 43 – 59)

Sandstrom has been relied upon to allegedly “teach[] that it is know[n] to form recording disks such that they are either substrate incident... or air-incident..., but that air-incident recording is preferred because it ‘has the potential to produce extremely small spot sizes..., thereby providing increased spatial density and data storage capacity’” (Paper 10, page 3) Based upon this language in Sandstrom, the Examiner contends that “[i]t would therefore have been

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obvious to one of ordinary skill in the art at the time of applicant's invention to modify the device of Feuerherd et al to utilize air-incident recording meeting applicants' claimed method of use limitations..." (Paper 10, page 3)

Applicants do not deny that there are different types of storage media. However, these different types of media have different requirements, specifications, and capabilities. The various media are not interchangeable. For example, a DVD will not play in a CD player, and a magneto-optic disk will not play DVD player or a CD player. The different media have different characteristics, are formed differently, written to differently, and read differently. Expectations for one type of media are not the same as another type of media.

Applicants specifically claim a media where the data layer can be at least partly read from, written to, or a combination thereof by an energy field such that the energy field is incident upon the data layer *before* it could be incident upon the substrate. In other words, Applicants are claiming a particular type of media. Since one of ordinary skill in the art readily understands that various media are not interchangeable, that CDs do not possess the necessary characteristics to be used for air-incident type applications, for example, an artisan would not have been motivated to use the teachings of Feuerherd et al. in the preparation of a media as is taught and claimed in the present application.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

In other words, the test is not what an artisan could or might do, but what they would have been motivated to do at the time of the present invention. Considering that artisans clearly understand the differences between the various types of storage media, an artisan would not have been motivated to use the teachings of Feuerherd et al. with any type of media except the media taught by Feuerherd et al.: "This novel molding for optical purposes should be particularly

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suitable as a dimensionally stable substrate for audio compact disks (CD), for audiovisual compact disks (CDV), for laser-optical computer disks and for magneto-optical computer disks." (Col. 3, lines 13 - 18) They in no way suggest or provide any motivation that their "novel molding" can be used for anything other than substrate-incident media.

With respect to Sandstrom, they teach that there is a difference between substrate-incident and air-incident media and that the substrate-incident is not interchangeable with the air-incident media. In other words, they teach away from using the teachings of Freuerherd et al. in any sort of air-incident type of recording. They discuss problems with focus of the laser, flatness variations, etc. If Sandstrom provide any motivation at all with respect to Freuerherd et al., it is motivation NOT to combine or modify Freuerherd et al. as is suggested in the Office Action because there is no expectation of success. Actually, the expectation is of failure.

Considering that all of the claims of the present application require that the energy field (e.g., light for Claim 40) be incident upon the data layer before it could be incident upon the substrate, and Freuerherd et al. is directed to substrate-incident media, there is no motivation or expectation of success to modify Freuerherd et al., or to combine Freuerherd et al. with a non-substrate-incident media to attain the presently claimed invention. Freuerherd et al., alone, and in combination with Sandstrom, fails to render the present claims obvious.

It is noted that "consisting essentially of" is discussed in the Office Action. (Paper 10, page 4 - page 5). As evidence that elements do not effect the capability of the substrate for use in near-field air-incident recording at high recording density, various claims are cited that are part of the "comprising" claims. Applicants note that the claim that uses "consists essentially of" is Claim 22 and the dependent claims therefrom, namely Claims 23 - 29. The "consists essentially of" is set forth in relation to the plastic resin portion that is claimed to be "a single phase blend". Applicants have made no representation with respect to whether the elements of the claims depending from Claim 1 "effect the capability of the substrate for use in near-field air-incident recording..." as is set forth in the Office Action. (Paper 10, pages 4 - 5) Actually, it is not relevant whether they do or do not. The "consisting essentially of" language is employed in relation to the materials of the "single phase plastic resin portion". Therefore, the issue is whether the element would affect the plastic resin portion's ability to be a single phase.

With respect to tilt, Sandstrom does not teach "the importance of producing a flat, dimensionally stable air-incident substrate, i.e., the substrate of Freuerherd et al. Sandstrom's

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teachings regarding warp and flatness are in relation to a different type of media, namely the air-incident media. Sandstrom actually teaches that these characteristics are not issues for substrate-incident media. Therefore, it would not have been obvious for Freuerherd et al. to adjust a variable that is not an issue for them.

For at least the above reasons, Freuerherd et al., alone and in combination with Sandstrom, fail to render the present claims obvious. Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 16 and 17 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Feuerherd et al. in view of Sandstrom, and further in view of U.S. Patent No. 5,538,774 to Landin et al. Applicants respectfully traverse this rejection.

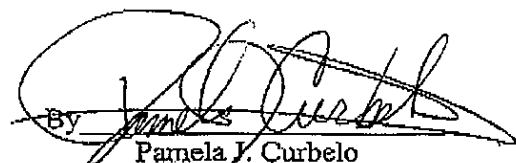
Landin et al. is directed to a method for internally damping a rotatable storage article, which is subject to resonant vibration (Abstract). Landin et al. do not, however, rectify the problems associated with Freuerherd et al. and Sandstrom as discussed above. Without the necessary motivation and expectation of success, no *prima facie* case of obviousness has been established. As discussed above, the independent claims are obvious. As dependent claims from the allowable independent claims, Claims 16 and 17 are also allowable. Freuerherd et al., alone and in view of Sandstrom and Landin et al., fail to render the present claims obvious. Reconsideration and withdrawal of this rejection are respectfully requested.

It is believed that the foregoing remarks fully comply with the Office Action and that the claims herein are allowable to Applicants. Accordingly, reconsideration and withdrawal of the rejection and allowance of the case are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0862.

Respectfully submitted,

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